

Jigsaw Strategy for Cooperative Learning in an English Reading Class: Teacher's and Students' Beliefs

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Abstract: The study investigated teacher's and students' beliefs on jigsaw learning activities for cooperative learning. It was conducted to fill the void in the literature on jigsaw in the second language (L2) instruction seen from teachers' and students' beliefs. Twenty-four students of the English Language Education Department taking Intensive Reading class and the class teacher were involved in this study, employing observation and semi-structured interviews, the data of which were analysed using Thematic Analysis. It found that even though the jigsaw learning activities seemed to be successful, the phenomenon was not that straightforward as several students reported that they did not optimally show their best efforts in learning independently before class and did not optimally contribute to the discussions either. The study also found three themes related to teacher's and students' views on the implementation of the jigsaw. The students' pre-college learning experiences as passive learners negatively affected the quality of jigsaw conducted in the class. Though jigsaw being reported to be helpful, jigsaw's success heavily depended on individual student's performance and contribution. Despite the students' limitations, teachers' expectations towards the students motivated students to stretch their limits and perform better. Based on the findings, contribution, limitations, and suggested future studies are stated.

Keywords: *Cooperative Learning; Jigsaw Strategy; Students' Beliefs; Teacher's Beliefs; Thematic Analysis.*

INTRODUCTION

Several authors have given definitions of learning strategy in the second language (L2) instruction from decades ago (e.g. Kirby, 1988; Mayer, 1988; Rigney, 1978), suggesting that learning strategy has been an established notion. Kirby (1988), for example, defined learning

strategy as the technique of selecting, combining and redesigning cognitive routines in the classroom. Mayer (1988) gave another definition, which is one of the learners' behaviours that are intended. It can be stated that learning strategy is the ways or techniques that are implemented in the learning activity to

influence how learners process information. The purpose of the learning strategy itself is to aid knowledge and performance for a particular purpose for effectiveness (Tharayil et al., 2018).

Jigsaw learning strategy is one of the learning strategies used to build cooperative learning (Foldnes, 2016; Zhang et al., 2015). According to Mengduo and Xiaoling (2010), there are five principles for jigsaw strategy such as positive interdependence, face-to-face interaction, individual and group accountability, interpersonal skills, and group processing. In other words, the use of a jigsaw learning strategy is requiring students to be involved with each other. Mengduo and Xiaoling (2010) further stated that the use of a jigsaw learning strategy helps students to develop their teamwork skills which can be one of the strategies to build cooperative learning. They found that the implementation of jigsaw has significantly improved students' performance. Specific in reading contexts, Simsek and Baydar (2019) found that "jigsaw learning strategy contains more constructed peer tutoring and reading practices for meaning" (p. 410). In other words, by applying a jigsaw learning strategy the students will practice their reading skills. This activity could build good peer tutoring and reading practices.

Zhang et al. (2015) and Colbeck et al. (2000) found that building cooperative learning, for example through jigsaw, has significantly produced a better performance than all other methods applied before in their studies. From a similar perspective, Foldnes (2016) also found that cooperative works effectively when students work together as a group so that they can reach their learning goals through discussion in group works. Seen from the relatively similar findings of these several studies, it could be stated that cooperative learning through group works can be considered one of the strategies that can improve learning.

Despite the mentioned advantages of jigsaw learning characterised with group works

and cooperative activities, some studies also found the possible disadvantages. As jigsaw learning requires group works or discussions in it, some studies found that students did not use group works as what their teachers expected (e.g. Burke, 2011; Davies, 2009; Er, 2017; Raymond & Choon, 2017). The disadvantages may occur because of students' previous learning experiences hampering the effectiveness of jigsaw activities (Raymond & Choon, 2017; Simsek & Baydar, 2019). Raymond's and Choon's (2017) study, for example, involving students in Southeast Asian countries, such as Singapore, Malaysia, Indonesia, Thailand, Vietnam, and the Philippines found that the student participants tend to be passive learners in college-level because of their pre-college learning experiences. Regarding this, Haryono (2015) stated that students' previous learning can be one of the obstacles in implementing a jigsaw learning strategy effectively. Besides group works could not always guarantee optimal learning (Decuyper et al., 2010).

To minimise the possible drawbacks of a jigsaw, teachers' support (Lui & Bonner, 2016) and expectation (Kern, 1995; Nolen & Haladyna, 1990; O'Donovan, 2017) to students can play a paramount role. Lui's and Bonner's (2016) study, for example, found that the obstacle of implementing a jigsaw learning strategy can be reduced when teachers give enough support to the students in the learning process. Some other studies also found that expectations can drive learners to achieve more despite their limitations (Kern, 1995; Nolen & Haladyna, 1990; O'Donovan, 2017; Simsek & Baydar, 2019; Tang & Tian, 2015). These studies found that letting the students know the expectation of the course helped students in addressing their current abilities to succeed in their learning. By doing so, teachers support students in becoming independent learners (Tang & Tian, 2015). Though not specifically in jigsaw literature, teachers' expectations and

encouraging support could also stimulate what Swain (1995) defined as “pushed output”. That is an output that learners may not be able to produce unless forced to do so by the tasks. For example, learners who think that they are not capable, due to the demand to meet their teachers’ expectations in class could likely be compelled to perform better stretching their ability beyond their comfort level.

Cooperative learning has been in spotlight in the 21st-century education because it is the manifestation of collaboration that is one emphasised aspect along with critical thinking, creativity, and communication (Kereluik et al., 2013). Regarding that, to prepare students to face the 21st-century era, today’s class instruction has to be ready with cooperative learning.

Concerning that, investigating teachers’ and students’ beliefs on the issue can be paramount. Studies on teachers’ and students’ beliefs develop considerably as such beliefs become important factors in instruction (Biesta et al., 2015; Farrell & Ives, 2015; Tang & Tian, 2015). Teachers’ beliefs affect teachers’ decision-making as well as heavily influence their teaching methods, including materials and activities in class (Biesta et al., 2015; Farrell & Ives, 2015). Regarding students’ beliefs, Tang and Tian (2015) reported that students’ beliefs play the most important role that can affect them in decision-making throughout the learning process.

Studies on jigsaw are not at all new. A quantitative study on teachers’ and students’ beliefs on the use of jigsaw learning strategy has been explored by Simsek and Baydar (2019) in Social Studies Department in Turkey. In the Indonesian context, several studies on jigsaw have also been conducted in various disciplines (Indriwati et al., 2019; Marhamah & Mulyadi, 2013; Suendarti, 2017), i.e. in Biology Education Department, in Islamic Education Department, and in Junior High School Science students, respectively. However, studies on

teachers’ and students’ beliefs on the use of jigsaw learning strategy among English Language Education Department students who would be future teachers, to the best of our knowledge, are non-existent, despite the potentials. As jigsaw learning was considered collaborative learning emphasised in the 21st century, it is important to further investigate these learners’ views as they would likely be future teachers having a paramount role in instruction. Furthermore, as previous studies on jigsaw heavily relied on quantitative methods such as experimental research using teaching intervention, the present study uses qualitative methods to better explore phenomena in-depth and could offer unique perspectives on the issue as to the best of our knowledge, this study will be a first in the field in the Indonesian L2 context.

Considering the rationales, the present study seeks to answer three research questions: First, to what extent does a university teacher use jigsaw learning strategy in the classroom? Second, to what extent is students’ participation in a jigsaw learning activity in the classroom? Third, what are teacher’s and students’ views on the use of jigsaw learning strategy for cooperative learning?

METHOD

Research design

This study used qualitative research methods to gather data from the participants. In most cases, the use of the qualitative method is to gain in-depth information from the participants on a particular phenomenon (Creswell, 2014; Hammarberg et al., 2016). In this study, the use of the qualitative methods was to gain teacher’s and students’ beliefs on the use of jigsaw learning strategy.

To be more specific, this present study used observations and interviews. The observation was conducted in the full duration of the class to answer the first research question on the implementation of the jigsaw in reading

class. Interviews were conducted to answer the second and third research questions on the students' participation in jigsaw learning activities and the reading class teacher's and students' beliefs on jigsaw implemented in their class, respectively. The uses of two different methods were also meant for triangulation, intended to obtain a more accurate estimate of qualitative findings related to the objectives of the present study (Oliver-Hoyo & Allen, 2006).

The instruments of the study were observation checklist and interview checklist on the use of jigsaw in their class. An observation checklist was used to measure the participants' behaviours, responses to instruction, and the actions during the observation time (Nelson et al., 2008). Furthermore, due to the Covid-19 pandemic, this study used online semi-structured interviews in which the interview checklist prepared beforehand was elaborated per the dynamic of the interviews, allowing possible follow-up questions as necessary.

Furthermore, the result of the observation was reported descriptively allowing in-detailed narration of what happened in the class, allowing a vivid description of phenomena related to first and second research questions. Furthermore, the interviews were transcribed, translated, and coded per the third research question. Then, the coded transcripts were analysed using Thematic Analysis in which recurring themes about the study's purpose were obtained (Braun & Clarke, 2006).

Research context and participants

The research was conducted in the context of the Intensive Reading class at the English Language Education Department of a private university in Indonesia. It was a reading class at an intermediate level. The objective of the class was that by the end of the class students would be able to finish reading Cohey's (2004) *The Seven Habits of Highly Effective People: Powerful Lessons in Personal Change* using all the required reading techniques. This class was

conducted in sixteen meetings in a semester with 150 minutes duration for each meeting.

There were 24 students of the Intensive Reading class and the class teacher participating in the study. The student participants were second-semester students. These 24 students and teacher were observed in 150 minutes, or one full session of the class. The teacher had implemented jigsaw learning for more than two semesters and this was the consideration as to why her class was observed. Based on the observation result, four student participants, two males, and two females, and the teacher (female) were invited for interviews. The four students were selected based on the degree of activeness in their involvement in the jigsaw activity observed previously. Two students were categorised as 'very active' whilst the other two were 'moderately active'. No student could be categorised as 'passive' during jigsaw learning activity in the observation.

RESULTS AND DISCUSSION

All of the participants' names were converted into pseudonyms. The student participants were Vanessa (Female/F), Sierra (F), Calum (Male/M), Ashton (M), whilst the teacher participant was Martha (F).

Research question 1: To what extent do university teachers use jigsaw learning strategy in the classroom?

The students were assigned a reading task to read at home before the meeting in which observation was conducted. There were two different parts of the task, Part A and Part B. Thus, twelve students read Part A and thirteen students read Part B. The group with their original part was called "Master Group". The teacher gave ten minutes for "Master Group" to prepare their ideas and points that they would share in the new group consisting of two students from two different "Master Groups" Martha stated to the class:

Martha (T): *“To make sure of what you (students) have learned at home, I give you ten minutes to prepare what you are going to share with your friends later. Use the time well so that you can discover all the points”*

After students had finished the discussion with the Master Group, the teacher asked each student from the two different “Master Groups” to find a partner from the other part. These two students from two different “Master Groups” formed a new group called the “Home Group”.

Martha (T): *“Please find a partner from a different part to make the home group. You can choose it by yourself, if it is done, tell me then we will start the discussion.”*

In total there were twelve “Home Groups” and they were given 30 minutes of discussion consisting of 10 minutes for discussing Part A, 10 minutes for discussing Part B, and another 10 minutes to make sure that two students in each Home Group had mastered both Parts A and B. The teacher began the discussion with the following instruction:

Martha (T): *“with your new partner right now, please discuss and share your understanding of the part that you have mastered before. I will give thirty minutes, the first ten minutes can be used by the first person in the group, the next ten minutes can be used by the other person, and [in] the last ten minutes both of you please make sure that you get the idea of the materials and master both parts.”*

During the discussion, the teacher walked around and checked every group to see what they were discussing. The students seemed to enjoy the discussion time because the atmosphere of the class was conducive. By the end of the given thirty minutes, these students were still active and enjoyed sharing. Therefore,

the teacher extended the time for them to finish their discussion. However, we noticed some of the groups did not use the extended time discussing the materials. Instead, they were discussing unrelated topics. After the pair-work discussion in Home Groups ended, there was class discussion. The teacher checked the students’ understanding of the materials by asking them to present or share their ideas in front of the class.

As suggested by Mengduo and Xiaoling (2010) of the procedure of the jigsaw learning strategy, it seemed that the whole scenario of the observed reading class indicated that the jigsaw learning strategy applied by the teacher had been running successfully. The students did what the teacher asked and seemed to perform per the teacher’s expectation. Even, some groups needed additional time to finish their discussions, perhaps suggesting lively and thought-provoking discussions. Seen based on the purpose of jigsaw learning, students had achieved collaborative activities by doing discussions in which they exchanged their knowledge of different parts of the materials. As mentioned, Zhang et al. (2015) and Foldnes (2016) found that jigsaw learning strategy was one of the learning strategies that could improve learners’ participation in collaborative learning. As the time the observation was conducted was not the first jigsaw learning activity done by the student participants in the class, they seemed to have been familiar with the procedure and to enjoy to find themselves learning collaboratively with others.

In general, the atmosphere of the class was so favourable when the students did the jigsaw learning activity. Students willingly read materials at home, divided themselves into two different Master Groups, formed the “Home Group”, and discussed what they had learnt with their respective partner in the group. Most of the students seemed to be actively discussing the materials that were given by the teacher.

Research question 2: To what extent is students' participation in the jigsaw learning activity?

Some students reported that, despite the observation's result on the favourable atmosphere of the class during the jigsaw learning activity, they did not focus on the materials all the time during the discussion. Sierra, for instance, commented:

"...we did the discussion on the material but not the whole time. We discussed something else and then when we saw the teacher coming, we started to pretend that we read the material. The teacher was not always around so yeah..." (Sierra)

Calum also reported that his group did not discuss the materials during the whole duration, mentioning that when he was paired with a close friend, they would likely talk about other things. He reported:

"...we did not discuss the materials immediately in the beginning. Instead, we talked about other things. Especially, when we got paired with our friends, meaning our close friends, it reduced our awareness of the objective that we had to fully understand the materials. At the time, we were talking about something else almost for half of the duration provided..." (Calum)

Interestingly, the finding was not surprising as some studies found similar result on the disadvantages of having a group work (e.g. Burke, 2011; Davies, 2009; Er, 2017). For example, Davies (2009) found that some of the disadvantages of group works were reducing students' seriousness of the materials and the learning atmosphere of the class could be bothered. In other words, students could decrease their contribution to learning and their understanding of the materials could be compromised. The relatively same finding of the present study and that of previous studies

(Burke, 2011; Davies, 2009; Er, 2017) on the disadvantages of having group works was also in line with Decuyper et al.'s (2010) statement that in conducting a group works, students' optimal learning from one another to explore the materials could not always be guaranteed. Thus, it may suggest that teachers need to be aware of students' varying degrees of contribution to participating in jigsaw learning activities. For example, teachers could constantly monitor students' flows of the discussion by coming to each group and asking several prompting and thought-provoking questions for students to ponder further. Pairing students using some kind of lottery or games could also be another option. This allowed students to work collaboratively with any possible partners regardless of whether they were close to them, further promoting a class community with a more solid sense of cooperation conducive for learning.

Research question 3: What are teachers' and students' views on the use of jigsaw learning strategy for cooperative learning?

Table 1 showed the emerging themes about the student and teacher participants' views on the use of jigsaw learning strategy in class.

Table 1. Emerging themes on the participants' views on the use of jigsaw learning

Theme 1. The participants' previous learning experiences as passive learners reduced the quality of jigsaw learning activities.
Theme 2. The implementation of the jigsaw learning strategy was helpful but its degree of success depended on individual student's performance.
Theme 3. Teacher's expectation improved students' participation in jigsaw learning activities.

Theme 1. The participants' previous learning experiences as passive learners reduced the quality of jigsaw learning activities.

Students reported that their previous learning experiences in Senior High School affected their participation in jigsaw learning activities. That they were still at the beginning of the second

semester affected their participation in jigsaw learning activities. Vanessa, for instance, commented that ‘teacher-centred’ approach of instruction in her previous learning experiences in High School affected her quality of independent learning in college. She commented:

“Maybe, as a second-semester student, we have not been able to do flip learning very well. Even just to read the material at home is still difficult. We usually get everything by teachers explaining to us in the classroom” (Vanessa)

Vanessa’s remark was in line with that of Calum. Calum also reported that in High School, his teachers always explained the materials, and thus, the activity of reading class materials at home individually in the Intensive Reading class was quite challenging for him. He reported:

“..., I was still influenced by my previous learning in Senior High School where the teachers always fed us with the knowledge. The teachers explained the materials and we, as students, just listened then did what the teacher asked ... in this jigsaw learning, we are given a reading passage that we have to read by ourselves ... because we are still in the second semester (of college), sometimes we are still having a hard time being independent students.” (Calum)

Seen from the excerpts, students still found difficulty in participating in jigsaw learning in the reading class because they were required to read the materials by themselves before the intended meeting discussing those materials. It was mentioned that in High School, their teachers usually fed them with the materials they needed to learn. The finding on learners’ previous experiences as passive learners hindering their learning process was the same as the finding of Raymond's and Choon's (2017) study. They found that students were accustomed to being passive learners in pre-college levels of education and that influenced

students’ performance in college. As Raymond's and Choon's (2017) study was also conducted in Asia, the findings of the two studies may indicate that Asian students in pre-college education levels tend to be passive in class and this experience affected their academic performance in college-level negatively.

Regarding learners’ unsupportive previous learning experiences, the class teacher also had the same idea that her students’ pre-college education levels offered less pressure than the college level did and before college, the students may not have much opportunity to learn from others. She commented:

“... I'm also prepared that they don't have the skills to read. Because when they were in high school, they usually found answers to questions in the book. Like the same, so that they just copy-paste from the sources. They can get the answer even without finishing the whole passage ... but, the reason why I still use jigsaw in my class because I believe that it provides good media for them to learn from others as a student.” (Martha, T)

As seen from the teacher’s excerpt, she agreed that students’ previous learning experiences as passive learners reduced the quality of jigsaw learning activities. However, she believed that implementing jigsaw learning is a good strategy for compelling students to learn from one another. Her belief was in line with Colbeck et al.'s (2000) idea that group work gives a positive impact on improving cooperative learning and students' awareness of learning from others. Perhaps, it also reflected several statements of learning strategy mentioned by numerous experts in early publications to the recent ones (e.g.: Kessler & Bikowski, 2010; Kirby, 1988; Mayer, 1988; Rigney, 1978; Tharayil et al., 2018) that the purpose of learning strategy is to familiarize learners in learning.

Theme 2. The implementation of the jigsaw learning strategy was helpful but its degree of success depended on individual students' performance.

Students admitted that the implementation of jigsaw learning was helpful to understand the materials. However, they pointed out that it was not fully successful as at times they did not give enough contribution. Vanessa, for example, commented:

"...I did not read the whole part of the materials, which was why I only shared limited ideas with my partner. They may not get good information from me, but who would guarantee that I also got full information from them." (Vanessa)

In a similar vein, Sierra, Calum, and Ashton also reported that they did not give a good contribution whilst participating in jigsaw learning activities. They stated:

"In my opinion, the weakness of the jigsaw learning is because not all students have the same (quality of) understanding. There are some with less understanding and some with a little bit more ... if we happen to be paired with the less one, we also understand the materials less." (Sierra)

"... I had learned deeply about the materials. But then, when my partner only shared limited things, I also did the same even though I actually could explain more. In the end, we just did not fully understand the ideas..." (Calum)

"...the weakness is that the lecturer could not identify and check which students who have not read the material before. ... In the discussion, I am not able to share many ideas, but I still need to understand the material, right? Then, I just read it after jigsaw learning as I also have got some ideas from my friends." (Ashton)

Interestingly, students did not only mention their limited contribution to jigsaw

activities. They also pointed out some weaknesses in the implementation of the jigsaw. The result was the same as Haryono's (2015) statement that implementing jigsaw learning has its obstacle at some points. Students mentioned that after finishing the jigsaw activities, they did not fully understand the materials.

In response to the students' concerns, the teacher stated that it was okay to face some obstacles as a certain learning strategy could not be taken for granted. Regarding this, she commented:

"...Ideally, a jigsaw learning strategy is only the tool of support for students in understanding materials in terms of efficiency of time. But efficient is not always effective, right? ... If the students want it to be effective, they still need to read all the parts again themselves for sure. The purpose of implementing jigsaw is to support them in reading and collaborating... But of course, it depends on how they (students) learn it ... also depends on the person you are learning from. And sometimes that what makes jigsaw learning activity not 100% effective." (Martha, T)

As seen from the teacher's and students' views on the jigsaw learning, it could be stated even though jigsaw learning was reported to be helpful, students' performance during the activities affected the jigsaw's degree of success. In other words, the students' accomplishment upon finishing the jigsaw learning activities depended on their performance during the procedure. This present study found that the students may not be able to understand the materials successfully as the jigsaw activities were done because of their limited contribution. Some previous studies also reported relatively similar findings (e.g. Lui & Bonner, 2016; Simsek & Baydar, 2019; Tang & Tian, 2015). Tang and Tian (2015), for example, found that their student participants' performance as independent learners became

one of the most important aspects as it greatly affected their performance during the jigsaw activities. It could be concluded that jigsaw could be successful if each learner performed well.

Theme 3. Teacher's expectation improved students' participation in jigsaw learning activities.

Students acknowledged that teacher's expectation improved their participation in jigsaw learning activities. They admitted that the way the teacher put expectation on them positively affected their participation in jigsaw learning activities. Calum, for example, stated that the teacher's high expectation was meant to motivate the students to explore the materials more. He commented:

"... even though it hard to achieve, I realize that the way she puts the expectation is to allow us (students) to explore ourselves in understanding the materials ..." (Calum)

In line with Calum's remark, Ashton seemed to agree that by implementing jigsaw learning, the teacher wanted to train the students to have good competence in reading skills. He commented:

"In my opinion, by implementing jigsaw learning, she (teacher) wants the students to have a good reciting skill. As we are required to read the material ourselves, we are also required to deliver the material to others. So, I think by implementing jigsaw, it is a way she provides the learning media that can practice our skill not only on the reading skill but also how we can deliver our ideas to others..." (Ashton)

As seen from the excerpts, the student participants seemed to agree that their teacher's expectation allowed them to stretch their ability and potentials in learning. It was in line with the idea of Lui and Bonner (2016) stating that a supportive teacher will maintain students based

on their ability and background knowledge, with a focus on achieving the goal of the course.

Furthermore, the teacher reported the same perspective that she supported the students in achieving the goal by not lowering the expectation but giving good learning media in the process. She stated:

"I don't want to follow their conditions. I share my expectation to the students first, I always let them know that by the end of the course they are supposed to be able to do this and that. After I share my expectation then I do it as what it is planned, I don't care whether they like it or not. I accept their reasons, but I don't care." (Martha, T)

In line with Martha's statement, some early studies (e.g.: Kern, 1995; Nolen & Haladyna, 1990; Pajares, 1992) and more recent ones (e.g.: Burke, 2011; O'Donovan, 2017; Simsek & Baydar, 2019; Tang & Tian, 2015) reported that teachers' expectation was one of the important aspects in supporting students for achieving the objective of the course. Burke (2011), for example, found that through group works, learners practised skills fulfilling the course objective shared at the beginning of the course to let students know the course' expected goals. As could be seen in the excerpt, Martha was doing the same. She shared the syllabus at the beginning of the semester, and as such the students knew what they were expected to be able to do by the end of the course.

The teacher's idea of setting a high expectation could also be seen as a way to facilitate the creation of "pushed output", output students were unlikely able to produce unless compelled to do so by the task (Swain, 1995). Here, the students were facilitated through jigsaw learning to move beyond their comfort zone of being passive learners to being independent learners taking more responsibility for their learning, despite the possible flaws.

CONCLUSION

The present study has several possible contributions and implications. To the best of our knowledge, the present study was the first study investigating teacher's and students' beliefs on jigsaw in the Indonesian L2 instruction context. Hence, the findings could be important as references for further study in the field. Furthermore, based on the finding that the students did not use the allocated time well for discussions, teachers may need to evaluate their use of jigsaw learning strategy and monitor students' discussions more frequently such as checking on each group and asking prompting questions. It may also be a good idea to combine jigsaw with another learning strategy that could compensate for the possible weaknesses of jigsaw implementation.

The present study also had limitations. The use of qualitative methods in the present study, furthermore, inherently carried the consequence that the findings may be unique to its contexts. Though the findings may be replicated in other contexts, generalisation may not be possible. Furthermore, due to the limited availability of literature on jigsaw in L2 instruction, literature with which the findings of this study were compared may come from various other disciplines. Then, the online interviews conducted due to the Covid-19 pandemic may also compromise the quality of the interview data to a certain extent due to technical problems.

There are some suggestions for future studies. First, as students' pre-college learning experiences as passive learners reduced the quality of jigsaw learning strategy, investigating the beliefs of High School teachers and students on independent and cooperative learning could be worthwhile. Next, it was found that the teacher's expectation improved students' participation in jigsaw learning activities. Thus, conducting further studies on teachers' expectations and the possible effects on learners' learning achievement through

quantitative methods of distributing questionnaires with the possibility of generalisation could be strategic as well.

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